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Local Government Board,
Whitehall, S.W.1.
Thursday, 6th March, 1919.

MINUTES OF DISCUSSION

AT

AN INFORMAL CONFERENCE TO CONSIDER GENERALLY THE SUBJECT

OF

"PEDIATRICS."

Maternity — Child welfare

Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P.,
In the Chair.

AGENDA.

I. Opening Remarks by Chairman.

II. Position of Pediatrics in the United States of America and in Canada.

III. Position in Italy.

IV. Position in New Zealand.

V. Present demands of Examining Bodies in Pediatrics, and facilities for teaching this subject in Great Britain.

LONDON: 1919.

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LIST OF THOSE PRESENT.

Sir George Newman, K.C.B., M.D., F.R.C.P., Chief Medical Officer, Local Government Board, and Chief Medical Officer and Medical Assessor, Board of Education.

Col. J. G. Adami, M.D., F.R.S., F.R.C.P., Professor of Pathology, McGill University, Montreal; Canadian Army Medical Services.

Capt. Richard A. Bolt, A.B., M.D., D.P.H., Cleveland, Ohio; Chief, Bureau of Child Hygiene, Cleveland; Instructor in Pediatrics, Western Reserve University; Welfare Physician, Babies' Dispensary and Hospital, Cleveland.

Hector C. Cameron, Esq., M.A., M.D., F.R.C.P., Physician to Guy's Hospital, and Physician-in-Charge of the Children's Department, Guy's Hospital.

Miss Janet Mary Campbell, M.D., M.S., Medical Officer in Charge of Maternity and Child Welfare, Local Government Board.

John S. Fairbairn, Esq., M.A., B.M., B.Ch. (Oxon.), F.R.C.P. (Lond.), F.R.C.S. (Eng.), Obstetric Physician to St. Thomas's Hospital and General Lying-in Hospital; Lecturer in Midwifery and Diseases of Women, St. Thomas's Hospital Medical School.

Eardley Holland, Esq., M.D., F.R.C.S., Assistant Obstetric Physician to the London Hospital; Surgeon to the City of London Maternity Hospital.

F. Truby King, Esq., C.M.G., M.B., B.Sc. (Public Health) Edin.; Lecturer on Mental Diseases, Otago University, New Zealand; General President, Royal New Zealand Society for the Health of Women and Children; Consulting Physician, Karitane Hospital for Babies; Medical Director, Babies of the Empire Society, London.

Miss Janet E. Lane-Claypon, M.D., D.Sc., Dean and Lecturer in Hygiene, Household and Social Science Department, King's College for Women, London.

*G. E. C. Pritchard, Esq., M.A., M.D., B.Ch. (Oxon.), M.R.C.P.; Physician, Queen's Hospital for Children; Physician, City of London Hospital for Diseases of the Chest.

W. R. Ramsey, Esq., M.D.; Assoc. Professor of Diseases of Children, University of Minnesota, U.S.A.; Visiting Physician to the University Hospital.

Lieut.-Col. G. S. Strathy, Demonstrator in Clinical Medicine, University of Toronto; Assistant Physician, Hospital for Sick Children, Toronto; Clinical Assistant in Medicine, Toronto General Hospital; Canadian Army Medical Corps.

S. W. Wheaton, Esq., M.D., F.R.C.P., Assistant Medical Officer, Local Government Board.

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* Present for one session of the Conference only.

Minutes of Discussion at an Informal Conference to consider generally the Subject of "Pediatrics."

MINUTES.

MAJOR THE HON. WALDORF ASTOR, M.P. (Parliamentary Secretary to the Local Government Board): Ladies and gentlemen, I only just want to welcome you here on behalf of Dr. Addison, the President of the Local Government Board. Unfortunately, he is laid up with influenza, like so many other eminent persons at the present moment, and he has asked me to apologise to you for his absence and to express his regrets at his inability to be present here.

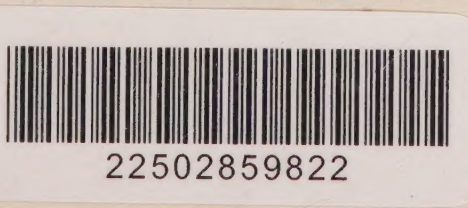
As you know, we are contemplating setting up a new Ministry of Health. The Bill was introduced the other day into the House of Commons, and we hope next week, if Dr. Addison is recovered, to start it through the Committee stage. Under that Ministry of Health we hope to do a great deal in the way of improving the conditions concerning child life, though of course it will not be restricted to child welfare, and a Conference like this, obviously, will be of the greatest value.

I have not come here really to make any speech, but only just formally to welcome you. I cannot be here for any length of time, because I have to go to help finish the final draft of the Housing Bill, which, incidentally, affects child life and the health of children enormously. We hope to bring that into the House of Commons either next week or the week after, and we are just now putting the finishing touches to it. You will excuse me, as I have to go to the Cabinet in addition to helping to finish the draft of the Housing Bill, and I will ask Sir George Newman to take the chair.

(SIR GEORGE NEWMAN accordingly took the Chair.)

I.—Opening Remarks by Chairman.

THE CHAIRMAN: Ladies and gentlemen, I have, like Major Astor, very little to say by way of introduction to our conversations. This little gathering had its origin some months ago in this way. When it was learned that there would be certain specialists present in this country from America and the Colonies, and possibly from France and Italy, it was thought eminently desirable that there should be an opportunity given them to meet together here to talk over some of the subjects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which concern maternity and child welfare in their relation to the medical curriculum. At one time it was proposed that there should be a large Conference; subsequently it was decided, before I came to the Local Government Board, that the Conference should be small and select, and that the opportunity should be taken of making any suggestions which you have in mind for the new Ministry of Health. Unfortunately, owing to the ravages of influenza and to other causes, the Conference is much smaller than was arranged. It was hoped that there would be some 25 or 30 representatives here, but we have received a number of apologies for absence on account of influenza. Sir William Osler has written saying that he regrets he cannot come here to-day. Sir Thomas Barlow, Sir Leslie Mackenzie, and Dr. Addison himself are all prevented, and Dr. Lucas, one of the principal witnesses in the case, is unfortunately detained in Paris with pneumonia, but Dr. Ramsey has come to represent him.

Now, ladies and gentlemen, what I suggest we should do is to have a talk round the table to-day in an informal way, following the agenda as far as may be convenient to us, and I hope you will feel quite free to introduce any subject under this heading which you think may be useful in the way of suggestions for a Ministry of Health or for action in England. I need scarcely remind you that a good deal has been done in England during the last ten or fifteen years in the way of maternity work, infant welfare centres, schools for mothers, and so forth.* Undoubtedly as a partial result of that there has been a reduction in infant mortality; due no doubt to many factors but certainly in part to that. Personally, I think a good deal of the reduction in the mortality is due to a wider knowledge in regard to these matters, more public attention having been drawn to them, so that mothers are almost necessarily more attentive to the importance of these things.

Now, I think probably the best plan is for us to hear from those who are present with regard to Pediatrics in America, Italy, and New Zealand, before we consider Item No. 5 on the agenda. No. 5 on the agenda, as you will see, is "Present demands of Examining Bodies in Pediatrics and facilities for teaching this subject in Great Britain." Again, let me remind you that I am not responsible for this agenda; these subjects have been handed down to me, but before we can really do much with No. 5, I think we want to hear the evidence under No. 2, No. 3 and No. 4.

The development of the relationship of gynecology, midwifery and infant care in relation to the medical curriculum is in itself a very large subject. I do not propose to trouble you with any details as to the present position in this country. It

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* See Appendix I., page 37.

differs very much in each of the 22 medical schools which we have here. In some of them a good deal of attention is being given to these subjects; in others, very little. But I would venture respectfully to warn you of the fact that maternity and pediatrics are in some ways rather akin to preventive medicine. It is an extremely difficult task to decide exactly where in a medical curriculum they should be included. I hold the view, as you know, that preventive medicine ought to pervade the whole curriculum, and if you asked me where maternity and pediatrics come in English medicine, I should reply, not as specific subjects only, but indirectly in a number of different sections of the curriculum. And I may remind you that we do not always advance a subject by saying that we will place new burdens upon the medical student, we will add a new subject to the curriculum, and we will add a new subject to the examination; we sometimes advance best by a flank movement. Many of you are competent teachers in medical schools, and you know that sort of thing quite as well as I do; but the result of our discussion to-day may not necessarily be that we have recommendations to make to this Board or to the Board of Education, which is responsible for medical education in this country. It may not be that we want to add any specific subject to the curriculum, but that we desire the whole curriculum to be so arranged and so enlarged in this country as shall lead in the result to what we desire.

Now as a matter of procedure, in order that we may get through our business with reasonable despatch, perhaps speakers in opening a subject will speak in the first instance for a quarter of an hour only. If this is agreeable to you, I will call on Dr. Ramsey to speak upon No. 2, the position of Pediatrics in the United States of America and in Canada. As I said before, he is here in place of Dr. Lucas, who is absent through illness.

II.—Position of Pediatrics in the United States of America and in Canada.

DR. W. R. RAMSEY: Mr. Chairman, ladies and gentlemen, I was informed that the subject to be discussed would be something regarding the status of Pediatrics in the Medical Schools. It just happens that at our Medical School at the University of Minnesota, where I am Associate Professor, we have made rather a definite departure from what has been usual until the last few years. We have at last secured a separate Department of Pediatrics, which we have been working for a long time. We have our own department (with 30 beds), with a whole-time professor at the head of it, an associate professor, and our own staff of clinical assistants, most of them being what we call half-time men; I am myself a half-time man.

Perhaps I may informally just tell you a little bit about what

led up to a separate Department of Pediatrics, or the Pediatric Chair being separated from that of Medicine. Until four or five years ago Pediatrics was a separate professorship, but was under the Department of Medicine. I think the first University to establish a separate Department of Pediatrics was Harvard. Since that time, Harvard, being a very prominent University, has been copied with great benefit to the whole study of Pediatrics.

For a good while after the intitiation of scientific medicine, after the great advances made by your Lord Lister and other men, it seemed as if medicine progressed very rapidly in the way of treatment and prevention of disease amongst adults, but in regard to children the situation was quite at a standstill, and had not improved. So a few men began studying the subject more intensively. It seems to me that the important thing is that we realise that child welfare is the most important and the most fundamental thing in the nation, and that if we are to succeed to the greatest degree possible, we must study it more intensively than we usually do. If we undertake to cover the whole field of medicine, including pediatrics, the field is too big, and our bread is pretty thinly buttered. We decided therefore to separate the pediatrician from the medical man, because, although pediatrics is a speciality in medicine, it is in many respects quite different. And I think the sooner we realise that the medical man is wrong in regarding, for instance, the child as a miniature adult, the better. That was the way I was taught, and I imagine a great many of you were also. I was taught that the same dosage and the same things apply to infants only varying in degree; that they were miniature adults; and that we just had to apply a relatively smaller dose and a relatively smaller kind of treatment in order to make it possible to include the child in the same category with the adult. But it has been found that the child has a physiology and a pathology of its own, and that the question was not one simply of clinical medicine, but one of nutrition depending upon an exact knowledge of feeding and general hygiene. We found that the average medical man did not study these things intensively, and did not teach them intensively. The result has been that the average medical practitioner throughout the country knows practically nothing about Pediatrics. He not only does not know, but he does not want to know; and he is proud, very often, that he does not know, and tells one that he does not attach any great importance to these things. So it became necessary to teach the students that these things were fundamental and were the very basis of child welfare.

Now, ladies and gentlemen, if we want to teach them more intensively, we must have a special Department. Since we have had a special Department of Pediatrics at the University of Minnesota, our development has been very rapid. I am speak-

ing now chiefly of teaching. I do not think that medical men generally—that is to say, general practitioners—need have a very special knowledge of pediatrics, but they must have a good working knowledge. In the Medical Schools we must have for the intensive teaching of this fundamental subject of pediatrics a very close co-operation with the obstetrician. In our Department there is that close co-operation. The two departments are on the same floor, and as soon as the cord is tied the child is passed over directly to the Department of Pediatrics. From that time on there is the closest co-operation between the obstetrician and the pediatrician. Also, our staff supervises and uses the child for the instruction and teaching of the students; and we have found the normal infant of vital importance in our teaching. Now the average medical man—the average general practitioner—approaches the child from the pathological standpoint. He is interested in whether the child has pneumonia or has a heart that is dilated, or a congenitally defective heart, a big liver, a floating spleen, or some other abnormal condition; but he is not particularly interested in the normal child. The normal infant is a most important thing to teach the student. If he knows the normal infant, then of course he quickly recognises the abnormal one.

But certainly it is true that a very careful and exact knowledge of the technique of breast feeding is most important; but I do not know of any more difficult thing. Each child "is a law unto itself," and each must be studied individually. Certainly the man who knows the technique of breast feeding, and insists upon breast feeding, will probably save ten times more children than the man who knows how to diagnose pneumonia or a right-sided heart.

The welfare of the race depends fundamentally upon prenatal care, upon breast feeding, and upon the technique which is brought to bear in the first years of life. There is not anything in the whole field of medicine that requires more judgment, more experience, and a more thorough analysis than the question of feeding infants. A few years ago we had gotten down in America to such a position that probably not more than 30 or 40 per cent. of our women were nursing their children. The country was flooded with literature on patent foods which was sent to women, not only after the baby was born, but long before; they were told how much easier it was to feed their babies artificially, and that all they had to do was to add water and serve. The result was that doctors became contaminated with the idea, the nurses they taught, or did not teach, were imbued with the same opinion, and as a result the public thought that breast feeding was practically an impossible thing. It has been very interesting for me to notice the development of the change of opinion. I was among the first in the Middle West to limit my practice to Pediatrics, and the very best doctors

were quite disgusted. They could not see any sense in it. When I talked to some of the best obstetricians in the community, they said that it was quite impossible that the great majority of the better-class women could nurse their babies. They said, "It is impossible. We try it; we give them a perfectly conscientious trial, and when after a proper time they do not succeed, we wean them as a matter of course." That they were wrong about it has certainly been demonstrated by the fact that in very many communities 75 to 80 per cent. of the women now nurse their babies. I mean the well-to-do people, the people of fashion; the people who before thought it was a disgrace to nurse their babies are now very proud of it; it is quite the thing to do; they discuss it at their circles and their card parties, and go home promptly to nurse their babies.

Now, Sir, that has all been done by propaganda, by the doctor being properly educated, and as a result the nurse being properly educated. But there is a tremendous lot to do yet in the way of educating the doctor. The average doctor to-day in the city and in the country has about the same traditions as the average midwife or the average grandmother regarding the care of children. I propose to give you, by way of illustration, some of the fallacies which are still prevalent. The doctor believes, and the nurse backs him up, that the baby must be bathed immediately after birth. The result is that the baby may be exposed for half an hour or more in a room of low temperature, and many of them die as the result of the loss of heat so caused. Then there is another thing which I know from my own experience is still prevalent in America. It is a very common thing to wash or swab out the baby's mouth daily, a proceeding which accounts for many of the cases of stomatitis in young infants; it brushes off the epithelium and thrush follows. Certainly a large percentage of the bad dyspepsia in young infants is due to the classic dose of castor oil being given on the third day. I have observed that in hospitals where the dose of castor oil was given, digestive disturbance in the new-born was the rule.

Then, again, the belief in and the practice of frequent feeding is still in existence. I have in my pocket here an analysis of 300 charts of new-born infants in our hospital. All of them were fed by four-hour feeding, and only five feedings in the 24 hours. They were weighed every day before and after each nursing during the ten days they were in the hospital, and a complete analysis was made of everything pertaining to each of them. Mortality amongst them was extremely low, and they thrived better and gained weight better—not in the first ten days, because only a quarter of them had regained their normal birth weight at the end of the ten days, but after that time they went on much better than children who were frequently

fed. Also we discovered this interesting fact in regard to the number of stools. The normal number of stools in the 24 hours, as given in most of the English, German and American text-books, is from three to six a day, but with only five feedings in the 24 hours the average number of stools per day was two. We had no acute dyspepsia, the children thrived, they slept all night, and the mothers slept all night too. It certainly is true that the frequent feeding of young babies and the waking of the mothers at night is the reason why a great many cases are not breast fed; the mother becomes nervous, loses her sleep and her milk gradually disappears.

We arrived at the conclusion that Rubner's and Heubner's allowance of 100 calories per kilo was not applicable to the first two weeks. Our 300 series of new-born infants gained most satisfactorily on from 45-70 calories per kilo, and had only two movements daily, and when we tried increasing the amount to 100 calories per kilo they tended to have diarrhœa.

Now, Sir, those are fundamental matters, and those conclusions were come to us by a close, careful, and intensive study of Pediatrics by specialists who are devoting their time to the subject. One could go on indefinitely regarding, for instance, the facilities that still exist in the minds of the doctors, the nurses, and the public. Heresies handed down from time immemorial still exist, and if we are going to do anything fundamental in regard to infant and child welfare we must get the doctors properly educated, we must get the nurses properly educated, and then the public will get properly educated; or else we must educate the public first, and they will compel the doctors to get educated. (Laughter.) That is sometimes necessary, you know!

THE CHAIRMAN: I think your remarks have been most interesting, Dr. Ramsey. I think the general point about the importance of the subject of teaching medical students, then the nurses, and then the public, we shall all absolutely agree to. The question of the fallacies which exist is a very important one, and I am not sure that we could not arrive at some useful conclusions about that to-day. Then the whole question of breast feeding is one with which we ought to deal, so as to see if we have some common denominators. I will now call upon Lieutenant-Colonel Strathy, of Toronto.

LIEUT.-COLONEL STRATHY: Mr. Chairman, ladies and gentlemen, the teaching of pediatrics in Toronto has changed considerably in the last decade. I have been away for over four years and cannot speak of the recent conditions there. Ten years ago we had no pediatrician, and pediatrics was taught by the medical department. Consequently no progress was made. About ten years ago the teaching of pediatrics was put in special hands and now we have several specialists in the subject. The teaching has been taken up from two points of view, the teaching

of medical people, and the teaching of the public. The former is divided into two parts, the teaching of the medical student and the teaching of the practitioner. A large majority of the men who for the next twenty years will be attending babies are men whom we cannot reach through the University at present; therefore we had to adopt other means of educating them. The student course up to the present has been five years, but from now on it is to be six years. In the fifth year of that course—the fifth year is all clinical work—he has practically no lectures to attend; his time is all spent in the wards and the laboratories Each student gave three months to specialities, and six weeks of that time he gave to pediatrics. He attended for two hours a day on three days a week, but it has probably been lengthened since, because I know it was not considered enough. In Toronto we have a large children's hospital with 150 beds, 50 of them being for infants under one year. The student is closely connected with these. Some of the students live in the hospital, and assist the house staff in their work. All the students attend out-patient clinics, and there are usually only about four to six students in a clinic, so that they see the cases very intimately; they weigh the babies from week to week, and, if necessary, they follow them out to their own homes. The doctor holding the clinic may say to a student: "I want you to go down to that baby and see it each day until I see it again next week." That is the teaching of the student; but even that is considered insufficient to render him capable of doing much in the way of feeding babies and of securing such progress as there has been in eye and ear work, and in the various other specialties. There was, I believe, very little progress in those things until they were made specialties, and our idea is that pediatrics must be made a specialty. Moreover, I am of opinion that the physician in charge of the pediatrics department of a teaching hospital should spend three to four hours daily in that department.

There is the question of the overlapping between the Pediatrics Division and the Medical Division. A difference of opinion exists as to time, some believing that 18 months should be the time for the baby to be under the pediatrician, and others, three years. The arrangement at the Hospital for Sick Children with which I am associated is that the Pediatrics Division has the children from birth until 18 months, and the Medical Division has them from 18 months to 14 years. I may say I am on the Medical Division.

Then we were confronted with the question of educating the practitioners, and this was done largely in association with the municipal authorities. In Toronto we have only one University, and we have a children's hospital which is practically the Uni-

versity hospital. The Children's Hospital is the sick centre for it, and the care of all the sick children in the town who are in public care comes under the Children's Hospital. The Associated Board of Charities will not allow a grant of public money to be made to any other institution in that City which treats sick children.

The healthy babies are looked after by means of what we call milk depots, of which there are 16 in Toronto, and for which the municipality is responsible. These 16 milk depots cover a population of half a million. Our great difficulty has been to get enough well-trained practitioners, but as time goes on, and we are training more men in the hospital, we will have less difficulty in getting men for those depots. To each of those depots there is a practitioner, who is there, I think, twice a week. Every depot is for a district, of course. The part that the City authorities took in it was to supply places for the clinics to be held, to supply nurses for caring for those places, and for following up the children. That is done in this way. Within ten days of the birth of a baby, it does not matter how wealthy the family is or how poor, the nurse from the City Hall—a City nurse—calls at that house, saying she is from the City Hall. If the mother wants any help in any way in looking after her baby, or wants any advice how to do it, the nurse is very glad to give it at any time. In most of the poorer districts the nurse is immediately welcomed and brought in to see the baby, and they ask her to call again. She is very glad to do it, and she usually calls round every week or so for the first few months. She encourages the mother to go to the depot and have the baby weighed each week. We find now that the mother can go to the depot and have her baby weighed without hurting the feelings of the practitioner who is looking after that baby. We had to be careful at first not to tread on the toes of the local practitioners. But the mothers went there, had their babies weighed, or if the nurse saw that a baby was not doing well, she would advise the mother to take the baby to the nearest depot. As long as the baby was looked on as healthy, and that it was just a matter of feeding, it was treated at the depot, but no sick baby was allowed to be treated at any of those depots, but was sent into the children's hospital with a card. There is a card index, of course, for all these babies. A baby might be treated as an out-patient at the hospital, and when it was well enough to go back to the depot, its card showing all its treatment went with it.

Then again, in regard to the welfare side of the work. Whoever is holding a clinic—it does not matter whether it is a baby clinic or an older children's clinic—there is always a City Hall nurse in the clinic room, or the doctor can have her outside the door; she is, however, usually at his right hand. He will turn round and say to her, "I would like to have a report

on that home," and she can always give him a report on the home conditions, whether the child is getting enough to eat, whether the mother drinks, and so on. So that one can get a full report of the home conditions if it is wished. If a baby comes into the out-patient clinic, and it is required, for instance, that its stomach should be washed, and the mother does not know how to do it, all the doctor has to do is to say to the nurse, "I want that baby's stomach washed every week." Of course, I only give that by way of illustration. That instruction goes into the City Hall to the head nurse, and a nurse is instructed to go and do it. We have about 150 nurses who have mostly graduated at the Children's Hospital itself.

THE CHAIRMAN: I will now call on Colonel Adami.

COLONEL ADAMI: Mr. Chairman, ladies and gentlemen. The very fact that I am not a professional pediatrician makes me rather nervous of speaking here, but I may say a few words about our Canadian provisions in general. Canada has always held a half-way position, through having partly British and partly United States influence acting upon it, and being sensitive to both.

In regard to the general teaching in our medical schools, ever since McGill University was founded in 1824, the medical school has followed the British system of having the free entry of the students into the wards. Bedside teaching in maternity work, as well as in medicine and surgery, has been a striking characteristic. This was only introduced into the United States long years afterwards when the Johns Hopkins Hospital was opened. On the other hand, in regard to special maternity work, we have been acutely influenced by the States, and as a result our teaching of pediatrics has been, I think, considerably beyond anything in this country. I have brought the McGill Calendar for the 85th Session, 1916-1917, with me, and briefly this is the story. In pediatrics we have a professor, A. D. Blackader, three lecturers, and two demonstrators. The size of the staff is due to the fact that we have out-patient clinics for children at both of the two main hospitals attached to the University, the Royal Victoria and the Montreal General Hospitals, as well as at the Maternity Hospital. In all these three we have the teaching of pediatrics. The demonstrators have a special relation to the Maternity Hospital, and both of them have an attachment to one or other of the main general hospitals. Four years ago, therefore, we had a considerable staff there, and I think still have, though, as Colonel Strathy told you, I have not been there for some time. We are putting on now an extra year, and there will be still more work done in pediatrics. Perhaps I may just read this short paragraph from the Calendar:—

> "A didactic course on the diseases of infancy and childhood, including the feeding of infants, is given during the session to students of the fourth year. Clinical and didactic lectures are

given on diseases of the new-born at the Montreal Maternity Hospital. In the Montreal General and Royal Victoria Hospitals, weekly clinical lectures and ward demonstrations on diseases of childhood will be given to students of the fifth year, and groups of students in rotation will be assigned work in connection with the out-patient children's departments of both hospitals. The new Foundling and Baby Hospital, which has recently been opened with a capacity of 100 beds, will be utilised during the session for a series of demonstrations in infant feeding."

I may say that we make an extraordinarily strong point of infant feeding. The Maternity Hospital is an old institution, which has recently been wholly rebuilt. It has a large number of beds. The method that has already been described is in vogue there of the children being taken away from their mothers as soon as they are born, and those infants are looked after mainly by the pediatricians. So much so that one of our leading obstetricians absolutely refuses to see the child. He adopts the "by-product" idea, and says that his whole concern is with the mother, to see that she is well through maternity, and that the child should be, from the first moment of its life, in the hands of the physician who is going to look after it during the next two or three years. As a teacher I recognise that there are two broad groups of students who are going into general practice in the country, who must be taught to regard the infant as being of equal importance as the mother, and who will have to care for both of them, and the students who are going to specialise. The City practitioner can specialise, but in the country one man has to undertake both branches.

While I have been away they have been developing, as a separate department in the University, the Social Service Department; the last news I have had about it in a letter from Montreal is that they are getting the Social Service Department and the Child Welfare section of it closely into touch with the Medical School, and are trying to interest the students in the ordinary healthy child.

DR. CAMERON: From your experience as an examiner, do you think that it would be possible to conduct successfully examinations in Infant Hygiene and Management for students? Do you think these studies adapt themselves sufficiently well to the limitations of examinations? As you know, we in this country are in a position different from you in this respect. We are in the hands of outside examiners who have had no opportunity of seeing and valuing the previous work of the candidates. That may be changed, and we hope it will be, but at present we are dependent upon outside Examining Bodies. Now it is not difficult to test a student's knowledge of Medicine or of Pathology and to conduct an examination in these subjects. Can the same be said of the subjects of the Physiology, Hygiene and Management of Infancy? I myself think it can. For example, the causes of failure to nurse successfully at the breast are as definite and

as well understood as the causes of aortic stenosis, ignorance of which may mean failure to pass the examination.

COLONEL ADAMI: That is a very serious question. I think the whole system of examinations an absolute curse to this country. The work done by the student during his courses and the impression he has made upon his teachers ought to be taken into account.

III.—Position in Italy.

THE CHAIRMAN: I now call upon Captain Richard Bolt, Member of the Tuberculosis Division of the American Red Cross in Italy.

CAPTAIN BOLT: Mr. Chairman, unfortunately Dr. Randegger, who was to present the position in Italy, is unable to be here, so that it devolves upon me to outline briefly some of the findings of a Commission which was sent to look into the tuberculosis situation in Italy. This Commission was part of the American Red Cross in Italy. We found that tuberculosis was very closely related to other problems, and our Report* is simply the result of somewhat extensive investigation which the Commission has made with particular reference to the child welfare aspect of the problem. I have a complete list of the Commission here, but the chiefs of the Bureaux are as follows:—

Major W. C. White, Director; Major R. H. Bishop, Junr., Associate Director; Major J. H. Lowman, Chief of the Medical Staff; Miss Mary S. Gardner, Chief of the Public Health Nursing Staff; Capt. Knud Stouman, Statistician; Capt. E. A. Peterson, Medical Inspection of Schools; Capt. R. G. Paterson, Public Health Education; Capt. R. A. Bolt, Child Hygiene.

What I am going to state now is simply the child welfare phase of the Tuberculosis Commission. In order to gain an adequate conception of child welfare in Italy, it is necessary to take into consideration not simply the conditions during the last few years, but the pre-war condition of the children in that country.

Prior to the war Italy was undergoing considerable economic development, especially in the north. Hand in hand with industrial prosperity the infant mortality rate was gradually being lowered, especially in those places where serious efforts in child welfare had been made. The birth-rate in Italy has always been considerably higher than in northern Europe and in America, and although there had been a slight decrease in the birth-rate just prior to the war, it was still sufficiently high to assure a good margin of births over deaths. Before the war a considerable amount of work for infants and children had already been done. The Italians realised the need for the skilful treatment of children

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* See Appendix II., page 44.

and developed through their pediatricians a system of institutions which, in most places, met the immediate needs for sick children. They have also recognised for some time the necessity of assuring a good milk supply for growing children, and of providing, through a system of marine and mountain colonies, recreation and out-door life for those who are weak and predisposed to tuberculosis. These, however, were largely run during the summer months only. In a number of the medical centres of Italy, prior to the war, special instruction was given in pediatric clinics; but only in a few was the socio-economic side of child welfare work emphasised, and opportunity given to the students to do practical work in milk stations, consultations, or infant welfare centres. The need for co-ordinating all of this work was recognised by a few of the leading pediatricians, and one of them, Dott. M. Flamini, had gathered together in 1909 a complete list of institutions and schemes for child welfare in Italy. At the IX. Congress of the Italian Pediatric Society in June, 1918, Prof. V. Tedeschi presented an exhaustive report based upon his study of child welfare conditions in Italy. At the request of Prof. Berenini, Minister of Public Instruction, Prof. Tedeschi outlined a plan* for a law "For the Co-ordination of the Study of Pediatrics with the National Child Welfare Work." In Italy breast feeding of infants has always been in favour, and it might be said that in the north from eighty-five to ninety per cent. of the children are breast-fed for one year at least, and in the south from ninety to ninety-five per cent. The institution of midwives to look after normal obstetrical work is a long standing one in Italy, and in co-operation with the well-trained obstetricians do, generally speaking, good obstetrical work. The midwives are required to take a two years' course of training in medical centres, after which they receive a diploma. On the whole these women understand the necessity for cleanly obstetrics, for the care of the puerperium and the care of the new born infant's eyes, so that in Italy we find the incidence of puerperal infection comparatively small, and the amount of ophthalmia neonatorum relatively so.

At the outbreak of the war practically the whole male population was mobilised and a number of the physicians, including some of the obstetricians and pediatricians, were drafted into war service. A number of the children's hospitals were utilised for war purposes, and in those which were not completely taken over they were limited to one or two wards. The effect of the war upon the birth-rate was not immediately seen, and, as Prof. Gini has recently shown, there was rather an increase up to nine months after mobilisation of the various age groups, but since that time there has been a steady, and, in some places, an alarming decrease. The national birth-rate, which stood at

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* See Appendix III., page 48.

about 30.5 per thousand population at the outbreak of the war, has dropped to something like 18 or 16. In several of the industrial centres, the rate has fallen to about 10 during the past year. With this decrease in birth-rate, there has been an increase in infant mortality. The increase in infant mortality became manifest somewhat before the decrease in birth-rate began, but since that time there has been a steady increase in infant mortality. In a group of the larger cities (Rome, Florence, Bologna, Ravenna, Milan and Turin) there has not been an alarming increase during the war period, but on the other hand a number of cities along the Adriatic (Fano, Pesaro, Urbino, Foggia, and Bari) show a very high rate of increase, especially in the deaths from congenital weakness, debility, etc., and from the gastro-intestinal diseases. It has been particularly noted that the increase in infant mortality has taken place in the winter months January, February and March, and in the summer months, June, July and August. While the infant mortality rate of children under one year of age has greatly increased it might be said that the death-rate of children from one to five has advanced much more rapidly. I think this is a very important point. It has been attributed to the fact that at the weaning period, which is later in Italy than in England and America, food unsuitable to young children has been given, and, on account of high prices, suitable food has not been obtainable in any large quantity for the middle and lower classes.

The recent influenza epidemic has had both a direct and an indirect effect upon the infant mortality of Italy. While the death-rate of babies and young children from influenza has not been very high, when such children have been deprived of maternal nursing or crowded together in institutions, the death-rate has gone up considerably. For example, in the Hospital Santa Maria Degl' Innocenti (foundling asylum) of Florence, the death-rate of babies who acquired the disease was 47 per cent., mostly from complications of bronchial pneumonia; while in the pediatric clinic of the same city, where the conditions for medical care were better and a greater number of legitimate babies are taken, the death-rate was only 13 per cent. During the epidemic a considerable portion of the cases were of young women between twenty and thirty years of age. The mortality among this group was quite high, although it is difficult to state the definite percentage. It was seen in Italy, as in America, that pregnant women with influenza aborted very readily, and that the death-rate among such women was considerably higher than among non-pregnant women, so that the effect of this scourge will not be entirely manifest until the birth returns for 1919 have all been received. It should be pointed out that the number of cases of influenza in Italy was incredibly high. The number of deaths from this disease or its complications has been variously estim-

ated from five hundred thousand to one million, exclusive of the military population.

In viewing the child welfare problems of Italy, one is led to think of them, not as a finished picture with harmonious colouring, but rather as a mosaic made up of some sixty-nine different provinces grouped together into regions where the temperament, progressiveness and economic conditions of the people differ considerably in the various parts. In the north there has been considerable progress in the organisation of child welfare work and, although the birth rate is lower than that of the Adriatic coast and in the south, they have managed in the larger centres to reduce the infant mortality rate, so that there the actual saving in life has probably been greater. This region also represents the great industrial centres. It is also the seat of most of the great universities. Along the Adriatic the child welfare conditions appear to have been most affected by the war. Many of the smaller towns have suffered tremendously on account of the cutting off of trade and fishing and of the influx of the rural population into the cities. The region, being largely agricultural, began to show the effects of the removal of the men from the fields somewhat earlier than other parts where industries prevailed. The women were drawn to the larger centres into industries such as munitions and silk factories, paper and tobacco manufactories, very often leaving their children to be looked after by those who did not know how to direct the feeding properly. The result has been a considerable increase in deaths from gastro-intestinal diseases in the provinces along the Adriatic coast from Rimini to Lecce. With the advent of the war, precautions against malaria were somewhat relaxed. The quinine prophylaxsis could not be kept up adequately, the screening was not repaired, and comparatively little attention was paid to surface drainage. As a result, malaria has considerably increased in the South of Italy and in Sardegna. There has also been a considerable increase of malaria in the regions around Trieste and Venice, on account of the soldiers who had become infected in previous campaigns in Gallipoli, Macedonia and Albania. These men, returning to their homes in distant parts where anopheles are allowed to breed, will undoubtedly convey infection to their vicinities, and, in turn, the babies and wives will become infected.

During the war there has also been a considerable increase in the number of deaths from tuberculosis, which has manifested itself in practically all the large centres of population. With the coming of peace and the return of prisoners from Austria, a considerable number of whom have become infected with tuberculosis, tuberculosis is being carried into the very homes of these men. Although attempts are being made to segregate the cases, it will easily be understood how impossible it is strictly to enforce regulations, and how these men will come

into their homes despite all efforts and become centres of infection. From personal discussions with pediatricians in the north, I have been informed that tuberculosis among children under ten years of age is also on the increase. Von Pirquet tests applied to children in clinics in large cities in the north (Bologna, Milan, Padua) give it positive in from 50 to 60 per cent. of the cases under ten years of age. Thus, children infected early, and without sufficient nourishment, become prey to this dread disease. Outside the invaded area there does not seem to be very great lack of food, although along the Adriatic coast, where it was almost impossible to obtain milk or eggs at any reasonable price, the children did seem to be more under-nourished than in the north. Those who have travelled widely in Italy, and who have reported to us, state that the condition of the children between two and six years of age is, generally, favourable, but that at the period between one and two, which includes the weaning period and the adjustment to new kinds of food, the children have exhibited worse conditions, and in this group the death rate has been relatively higher. In the larger centres of population, among the well-to-do and even in the middle class, wet nursing was at one time in great vogue. During the war the wealthier class were still able to obtain wet nurses, but at greatly increased cost, which has prohibited the middle class from obtaining the same service. Of course the wet nurses' own babies have always suffered from the withdrawal of their nourishment, and the death rate among them has accordingly been high.

From the data we have gathered, it cannot be shown that during the war there has been any distinct increase in the number of foundling asylums and illegitimate babies. The mortality among this class, however, has been about twice as great as among the legitimate children, and under the best conditions in foundling asylums the mortality has been even higher. Some local regulations, passed within the last year, which prohibited a mother from placing her baby in a foundling asylum before it was four months old, have, of course, given the appearance of a reduced mortality in such institutions. Where the babies survive institutional treatment and are placed in the country after one or two years a number of them live if they get careful treatment and supervision, but it seems to be the experience during the war that the care given such babies has not been adequate and sufficient supervision has not been maintained, with the result that the death-rate of babies placed out in country homes has considerably increased. The Italians themselves have attempted to meet these problems and with the resources at hand have done as much as they could. Milk-distributing stations and economic kitchens have been established in every large centre, and considerable amounts of condensed milk have been distributed by the Red Cross. Clothes and institutional care have also been

provided, but there has never been in Italy any enthusiasm for health visitors, and up to the present time the people neither understand nor appreciate the importance of trained health visitors. But during the war, a considerable number of intelligent, well-to-do women entered the nursing service in the Army with the Italian and American Red Cross in one capacity or another, and these women have had their eyes opened to the needs of the civil population, especially to the care of the babies. From this group of women it is hoped to gather nuclei here and there for instruction in public health nursing. The co-ordination of all the child welfare activities in various centres must also take place, and in order to become effective a national organisation, with an executive committee representing various types of work for children, should be organised.

The condition in Italy is more hopeful than one would imagine from a mere cursory examination of the birth and infant mortality rates. Since the signing of the armistice there has been a decided revival of Italian spirit. There is considerable activity in the industrial centres of the north. The birth rate will rebound immediately when the men return from the front; there is practically no birth control in the south, and it is going out of vogue in the north. Breast feeding is almost universal for at least a year; only in the north does one meet with serious attempts at artificial feeding. Above all, there is growing a healthy idealism for maternity and child welfare. The men and women with children are looked upon as having real assets, economic, social and religious.

THE CHAIRMAN: Now will you add to that, Captain Bolt, what your Commission has done to meet the problem, because that is really an account of the present position in Italy?

CAPTAIN BOLT: Yes, I will briefly outline it. In the first place, I might say that the Commission was constituted of people interested in tuberculosis, specialists in infant welfare, publicity, public health education and public health nursing. We decided that the thing to do was not to go down there and attempt to show the Italians how to run their institutions, or, in fact, to attempt to show them how to do anything, but first to make a thorough study of the health situation. Accordingly our first step was to divide our Commission up into small groups, consisting of a medical man, a social worker and an interpreter. We divided up the whole of Italy, largely on the compartment or the provincial principle, and in each district we made first-hand investigations of their existing institutions as to what changes had taken place during the war and the outlook, gathering definite statistics from each region we visited. Now, apropos of child welfare to-day, I made out a special form indicating what should be looked for in a community with respect to child welfare. Also, in collaboration with the statistician of our

Commission, I worked out a simple form for statistics so that we could obtain from each locality what was happening there. We found it was very difficult to obtain from the authorities at Rome exact statistical information of recent date. They claimed that the war had swept things aside, so that they were not getting information, or when it came in it was hard to compile, so we went out to the individual communities and got it there. However, we made a study of the whole situation, and pooled our information in regard to what was taking place in Italy. We found the best thing to do was not to attempt to cover the whole field, but to pick out those parts of Italy which were most likely to respond to what we had to give, the next step being the formulation of what each one of us could give in our special line of work. For instance, in child welfare I was asked: "What can you do for us?" I formulated a simple outline: We can go into that district and help them to investigate their child welfare conditions more exactly; we can help them to compile statistics; we can help them to establish welfare centres; we can furnish them with expert advice on any of these matters if they want it. A similar line of effort was put forth by those interested in tuberculosis, in publicity and public health nursing, and so on. Then we picked out four of the most likely places, the province in which Genova is situated, the province of Perugia, the provinces of Sardegna, and the province of Palermo, Sicily. This gave us a wide latitude, but at the same time we could concentrate on those places. Then we said to the leaders of representative Committees: "You get together and formulate a programme as to what you think ought to be done in each district to co-ordinate all our forces, and we will see what we can do to help." They came to us with their programme. We compared it with our resources, and said we can give you certain things. In all cases we insisted on an executive secretary for each of these regions. We made an effort to correlate our child welfare work with the tuberculosis work. The result of that now is that in these districts we have helped them intensively with nurses, publicity, secretarial help, and so on, not giving money to institutions—that was the first great temptation, to respond to the large number of appeals from institutions. Italy is well supplied with institutions for all types of work. It simply means an adaptation of what they have to their needs. So we started in Genova, Perugia, Sardegna, and Palermo with these centres, and we hope to get them to come out into a national scheme for tuberculosis and infant welfare. Now, hand in hand with this, I got into personal touch with the leading pediatricians of the country, because I felt that unless you get the pediatricians behind you, especially in the Medical Schools, the effort in Italy would not come to very much. The education of the masses is difficult there; it is very difficult for the public health officers to introduce infant welfare into the schools, but it is not diffi-

cult to get a certain amount of supervision, and get them to understand the lines upon which we are working. We hope that at a Pediatrics Congress this summer they will adopt some sort of a plan such as Prof. Tedeschi has outlined. In other words, we think we ought not to interfere in any way, but, if possible, to assist in their technical organisation, and that is as far as we have gone. Our statistician, at the same time, has compiled all the data and statistics which I have brought here; he has made out an account from the statistical side, and I feel that that is a very important part. In the work which has to be done, you must have some place to correlate your knowledge, otherwise you go off at a tangent. We work slowly and systematically. When you consider it in detail, it does not look as if we have gathered very much, but I feel that when we leave Italy we shall have left with the Italians a method or system that they will find useful.

THE CHAIRMAN: Comparing your experience in Italy with your experience in America, do you think you have any suggestions to make to us here?

CAPTAIN BOLT: In the first place, I ought to say that I appreciate very much the courtesy that has been extended to me here in England during the past five weeks. During that time I have studied your child welfare situation. I have come in contact with many governing bodies, with your voluntary organisation, with your educational authorities, and have made somewhat extensive trips, picking out just the essential centres which seem to represent the different types of work. Having thought it all over and summing it up, it appears to me there are three things that will have to be done. The first and foremost, and the most important of these, it seems to me, is the education of the medical student to the needs of infant welfare work through your pediatric departments. That was discussed this morning to some extent, and will be discussed at greater length later on. The next need is the training of your health visitors along broad lines, not necessarily very intensive lines, but along ample social, economic and nursing lines. They should go all the way through a cross section of your country where the infant work occurs. The next thing to do is to educate your growing generation of mothers to the necessity for this type of work, and I would suggest that this can most easily be done in the upper grades of your schools. In Cleveland, about ten years ago, we got into touch with the educational authorities along this line, and they introduced into the 7th and 8th grades of public schools somewhat elementary courses on infant hygiene, school nurses taking one course and the domestic science teachers taking the other. That has been carried on now for ten years, and, as a result, we can see that breast feeding is coming more and more into vogue in Cleveland. The mothers are the most enthusiastic supporters of the infant welfare centres,

and the community is more interested. Then the propaganda side has already received a great deal of attention both here and in America. That is important, but I think propaganda should be guided by men and women who understand the fundamental principles of child welfare. All the schemes should be co-ordinated and brought before the public. If these three things were done, it seems to me that Great Britain will stand as the foremost nation in Maternity and Child Welfare. I feel at present that you have worked this thing out from a Governmental point of view as has no other nation, and that you will now be able to put it over and be a shining light to the rest of the world.

DR. JANET CAMPBELL: I should like to know from Captain Bolt how he thinks the teaching of mothercraft in schools ought to be done; whether he would agree with our view as to how it should be done. I should like to hear from him who he considers should teach it, and when it should be taught.

CAPTAIN BOLT: I believe that it should be taught not by your regular day-school teachers, but by those who are especially familiar with the health side of child problems. The health visitor can teach the importance of proper feeding and the proper care of the milk; she can impress upon the school children why the babies are dying; she can urge the necessity for the breast feeding of babies. All those simple elementary pediatric steps are more familiar to the public health visitor than they are to the ordinary school teacher. On the other side there is the domestic science teacher. I think the teaching should be given in what we call the 7th and 8th grades; that is to say, between the ages of 12 and 14. This view may not perhaps be pedagogically correct, but it is at least psychologically correct, because these girls will have dropped their interest in the dolls and furbelows of their childhood period; they come on to the verge of puberty, and it gives them something to think about that is going to appeal to them later on. They may forget about it until they are married, but it then comes back to them vividly. It ought to be a compulsory subject. The way it may be done is by the systematising of the school curriculum by the head nurse, by means of school nurses, and so forth. In Cleveland there is a definite programme for each lecture, which takes about 40 minutes, definite questions asked, and suggested answers given; every school nurse and every domestic science teacher is asked to follow this out; it is correlated and systematised, and they know to what end they are working. Each year the group of nurses meets with the Director of Child Hygiene, and he goes over this outline with them. If there have been any changes or any advances, he suggests those changes in their teaching, and they are incorporated in the system, which is thus kept up to date.

There is a great deal of practical training to be done. The

children are asked to bring their baby brother or sister into the school-room, and they are made to go through the demonstration of the use of the bottle and the nipples, how to clean a bottle, and simple things of that kind which can be done in the class-room by demonstration.

THE CHAIRMAN: It is a crucial point in this country whether we should require this kind of education to be given by the systematised teacher who knows, we will say, relatively little, but perhaps enough; or whether it should be attempted by, say, a school nurse or a doctor coming in from outside with greater knowledge possibly, but with no understanding of the child mind and with no practice in teaching. What do you say to that?

CAPTAIN BOLT: I should say the same thing could be obtained by training your school teachers in normal schools in these fundamental child hygiene principles.

DR. LANE-CLAYPON: I would rather like to ask what you include under a thorough training?

CAPTAIN BOLT: Up to the present time we have felt that the health visitor should have a thorough training in general nursing before she went into her public health duties; that is to say, every one of the nurses we have at the present time in Cleveland connected with the Health Department has had a general hospital training first. On top of that, they have had special training in tuberculosis dispensaries, sanatoria, and so forth, or in infant welfare centres, children's hospitals, dispensaries, making it a rather long and complicated process, and we have discovered this—that in some of the cases, perhaps more than a few, the preliminary training which they have had in the hospitals has not been altogether conducive to the best results in their training as health visitors. They have to change their attitude of mind very much, because they have been used to looking at the pathological side, and it is difficult to get them to see how to keep the baby well. From an infant welfare point of view, social service should receive more stress than this long preliminary training in hospital. I do not refer to the well-trained hospital graduates, but even in their case it is a question whether it is wise to allow them to devote so many years of their life in this way, when other types of work would probably make them more efficient in the long run.

DR. W. R. RAMSEY: I would like to make a suggestion in connection with what Captain Bolt has said about propaganda. As you are going to have a Minister of Health, this question of propaganda is tremendously important, but what we found was most important was to proceed on uniform lines. There are so many opinions among medical men about feeding, the care of children, fresh air, and so forth, that in one institution a man is taught one thing and in another institution something different. What we have found to be necessary, and what we finally did in

the United States of America, was to appoint a Commission of representative pediatricians—a representative from each University, say—and we asked those men to formulate something that they could all subscribe to. They had some difficulty, I assure you, but they finally got down to it and subscribed to a small pamphlet, which was then issued by the Government in many hundreds of thousands. Since these men were representative men, their findings are now accepted as the basis for a uniform propaganda for child feeding and general hygiene to be applied to children. I would suggest that that is the most important thing to do in connection with your propaganda.

IV.—Position in New Zealand.

DR. TRUBY KING: After what we have heard from the various speakers I think it is not essential for me to give my views in detail on the question of the education of the medical student, the education of the health visitor and the education of the mother. We are agreed that all these things need attention and consideration. I will speak only with regard to their order of importance. In New Zealand we have devoted our attention more particularly to the direct education of the community, the parents and especially the mothers of all classes. Of course our ultimate objective is the same, the obvious ideal being to make every woman the competent executive in her own household. She is on duty all the time; we, as doctors or as nurses, are only there at intervals. As I have said, however, I do not propose to dwell upon the points of education of the medical student or the education of the health visitors, midwives or maternity nurses. I am entirely of opinion that the subject should be regarded as of the first importance in the medical curriculum; it should be thoroughly taught by competent people, and students should be required to show competency in it. It is a subject of cardinal importance in the training of doctors, and nothing would do more good in our own country and in all the Overseas Dominions than if a strong lead were given from here.

We initiated the teaching of the public in New Zealand at Dunedin, which is our University centre. From the first, we had the sympathy of some of the leading men in the University, the Professor of Gynecology and the Professor of Surgery, for instance, and later most of the other Professors became identified with it, so we got a good backing. We established a small hospital solely as a baby hospital, and we trained nurses to fit them for teaching and for the care of mother and child throughout the whole country. We then used the hospital for the clinical teaching of the medical students, and the teaching of the domestic science students at the University: we also used it for the teaching of the general public by encouraging them

to come as visitors to the institution, allocating special nurses for this purpose. There was also a general propaganda by means of lectures, regular weekly articles in the newspapers, and so forth; books were written, some of which were printed by the Government and issued by the Public Health Department, not only to every expectant mother but for all mothers. In this way, being a small country, we were able to give uniform authoritative advice. There was unity in the matter, and, though our Society for the Health of Women and Children was started as a purely voluntary organisation, I happened to be a public servant and have come to act towards the Society partly in that capacity. There are between 70 and 80 Committees—Committees of from 10 to 25 representative women—all governed by rules and laws which are ratified and extended about every two years by a central meeting. Monthly reports are issued to the Public Health Department, and the Society has worked in loyal co-operation with them. There has been a growing recognition upon the part of the Public Authority. At first there was no grant towards the voluntary funds of the Society, but we have now reached the position of the Government contributing 24s. for every pound raised voluntarily for the salaries of our mothercraft nurses, and in addition the Government grants generous annual subsidies towards the support of the hospitals established by the organisation. Further, the Government allows our nurses to travel free of cost over the State-owned railways, and the Municipalities give them free travelling over the Municipal tramways. So that while the work is nominally voluntary the Government and the Municipalities take more and more cognisance of it, and in that way it has a growing status.

With regard to the teaching of the medical students it is only about seven or eight years since children's diseases were separated from the general teaching of medicine. Since then the subject has been under the Principal Doctor at the Babies' Hospital, and he has taken a very keen interest in pediatrics. He has seen to the teaching of the students by means of the Special Baby hospital, by means of his ward in the Dunedin Hospital into which children are received, and by access to the Government Maternity Hospitals. At the same time I should explain that our position with regard to the teaching of pediatrics is not to be compared with the status of this subject at the California University, for instance. At the best American Universities there is infinitely larger expenditure, there is an infinitely larger amount of research being carried out, and much more is expected and required of the medical students. It seems to me that that is entirely in the right direction; the subject is a most important one and the fate of the race largely depends on it.

In addition to what has already been said regarding the

fundamental importance of breast feeding, I should like to state emphatically that I am satisfied that the main damage to the baby often has its origin in the first fortnight of life. The common mistake is irregularity and undue frequency of feeding; and the after difficulties are largely due to indigestion caused through this over-feeding in the first fortnight of life. The facts and figures contained in Dr. Ramsey's recent paper, stating the conclusions formed at the University of Minnesota from the exhaustive study and investigation of 300 cases, show that the average quantity of mother's milk on which the baby really thrives at ten days of age is only about 13 ounces. The German standard, arrived at by Heubner, Camerer and others, which has been so largely followed, is 18 ounces at ten days. The difference is enormous. We find here in London, both in our Baby Hospital and in the home, as we found in New Zealand, that many cases where the mother fails in the early stages and where the child is subjected to early weaning are due to the fact that the child has had too much and not too little from the breast. There has been an over-supply during this early period, with the result that owing to indigestion and restlessness thus caused, the mother's milk supply begins to fall off. In such cases it is the habitual practice to recommend that a bottle be used, and that is the beginning of the end with regard to the giving up of nursing. That, at any rate, was the conclusion which was forced upon us in New Zealand and which is borne out by all the experience which I have had here. About 13 ounces of mother's milk is, in my opinion, the average food requirement at ten days. This is what we show on our Feeding Charts, and the figures coincide with those arrived at by Prof. Marfan, in Paris, and consistently advocated by him. With regard to the need for the adequate teaching of students for the medical and nursing professions and for enlightening the laity, I should like simply to endorse the statements made, especially by Dr. Bolt, as to the relative importance of these various factors. I do not think it matters much at which end we commence. Pediatrics ought to be taught thoroughly and should be given an important place in the examination of medical students. I have felt so strongly on this subject that I have proposed that my own lectureship (Mental Diseases) should be cut down to a half to make some room.

THE CHAIRMAN: Now, before we take the next subject I think it would be well if we could agree upon one or two quite general positions. I have got various notes down which come under four headings, and I think it would be well if we could decide whether they are the four main points on which we should now concentrate. The heading which I happen to have down first is *breast feeding*. We ought to try and arrive to-day at some sort of conclusion, if we can, on breast feeding, with particular reference to its importance and to the four hour question.

The second subject which has arisen is the *education of the medical student*. The third is the *education of the school girl* in mothercraft or infant hygiene, and the fourth is the *education of the public*, to be achieved, possibly, by a uniform presentation of the elementary facts to be drawn up by a Commission of medical experts. The subjects we have discussed appear to be capable of division into those four categories. Is anybody impressed with any other subject which does not come within those four and which has arisen, directly or indirectly, in the discussion?

DR. TRUBY KING: Might I suggest that perhaps sufficient emphasis has not been placed by any of us on the subject of the influence of the maternity nurse and midwife? She has paramount power; she is the first in contact. It is a matter of supreme importance. Many of these women who have been authorised, and who may be authorised in the future, but mainly those authorised in the past, principally on the ground that they have been practising, are very misleading in what they teach. They get in first, and it is difficult for doctor or nurse to bring reason to bear.

THE CHAIRMAN: I think you are right; *training the midwife, the monthly or maternity nurse, and the health visitor*. We all agree that the training of these people is also of paramount importance. This, therefore, is a fifth subject.

V.—Present Demands of Examining Bodies in Pediatrics and facilities for teaching this subject in Great Britain.

DR. H. C. CAMERON: Mr. Chairman, Ladies and Gentlemen, in what I say I shall speak from two points of view. I was for some years Dean of the Medical School at Guy's Hospital, and therefore I have some knowledge of the general question of the education of medical students. I am also in charge of the Children's Department at Guy's Hospital, which was opened in 1911. I feel strongly that a Children's Department in a Medical School should be concerned not only with the treatment of disease, but also with the study of the social and economic side and with the preventive aspect of the problem.

I think we may look upon Medicine as being divided into two parts. First, there is the study of growth and development, which must be based on physiology; the child is a living physiological model always to hand. Secondly, there is the study of decline, degeneration and decay, work which must be intimately connected with the study of Pathology and Morbid Anatomy. Now almost all the teaching which medical students receive is concerned with this second aspect of medicine. Even in the teaching about children, the emphasis is laid too exclusively upon diseased conditions. The children's physician is

apt to have the same attitude as the general physician, the only difference being that his patients are below a certain age. In order to correct this fault as far as possible, the Governors of Guy's Hospital have accepted a scheme which I laid before them for a complete Children's Department. In some respects the war has caused a vexatious delay. All the buildings are not yet complete, but everything has been agreed to. I should like, if I may, to describe our plans.

The children's wards, containing about 50 cots, will be in close proximity to a lying-in-ward of 20 beds. The infants born in the lying-in-ward will be under the care of an assistant, who will act under the joint control of the obstetric surgeons and myself. The Salomon's Centre for Infant Welfare is housed in a building adjoining the hospital, and is approaching completion. It will be conducted by assistants acting under my control. The Centre will undertake the ante-natal care of the two to three thousand expectant mothers who apply each year to the hospital for assistance in child-birth. These births are attended in part by the students of Guy's Hospital, and in part by the Pupil-Midwives of the Midwifery School attached to the hospital, in each case under the necessary supervision. The mothers all live in an area which is situated in the Boroughs of Bermondsey, Southwark and Lambeth, and our arrangements have the approval of the Medical Officers of Health concerned. In this area there are some twelve other Infant Centres at work, and the Salomon's Centre has entered into arrangements with these Centres to cover the whole area completely, so that every child is sent to the Centre which is most conveniently situated to its home. The Salomon's Centre, therefore, although it conducts the ante-natal work for the whole area, restricts its post-natal work to a small district in the immediate neighbourhood of the hospital.

The Out-Patient Children's Department has made arrangements to place the resources of the Hospital both for diagnosis and treatment at the disposal of all these Centres. In the Salomon's Centre there will be a resident superintendent and six resident health visitors. They will be assisted in the work by the pupil-midwives, and ultimately, it is hoped, by students working for a Diploma in Infant Welfare. The medical students of Guy's Hospital will have opportunities of studying the work and appreciating its methods and objects. I hope that this scheme will soon be in working order. At present it exists in *précis*, and there are still gaps caused by delay in the necessary building. An arrangement has just been made by which all students will spend three months in the Children's Department, passing into it immediately after three months spent in the special study of midwifery and the diseases of women, and I feel that with these arrangements it will be possible to make the instruction sufficiently comprehensive so that it may include the

study of the newly-born and of the normal child as well as the study of sick children.

But with all these advantages I feel that I shall be apt to fail in my attempt to give all students a sufficient training in pediatrics if the subject is still a voluntary one, so far as the student is concerned, and if there is no set examination of his knowledge as part of the Final Examination. At the present time in the various examinations there is often a single question set on some one of the classical disorders of childhood, and as Dr. Fairbairn has said, occasionally, or even usually, a question is set on some point of infant management or hygiene. If this important subject is not to be neglected by many students, who naturally enough have their examination requirements constantly in mind, the training must be compulsory and an examination must be held which will demand that the student does not answer scrappily or with vague generalities, but goes into detail and shows the same knowledge that is expected of him in his answers on morbid anatomy or on clinical symptoms.

I know that the curriculum of the medical student is overcrowded. Nevertheless, I do not think that there should be difficulty in providing for a three-months' study of a subject which is not a narrow speciality, but which forms the foundation of almost all that the student learns elsewhere. It is necessary for his understanding of many disorders of later life, and is of supreme practical importance for him in after life. In the first place, I think that relatively too long a time is spent in the study of anatomy. Of the five years of medical study, the greater part of two years is devoted to memorising anatomical nomenclature. Within a very short time the whole fades from the student's memory; only general outlines survive and those details which he learns often for the first time from his studies in medicine and surgery. Of the two or two-and-a-half years devoted to clinical study, a very large part of his time is spent in watching or assisting in surgical procedures of various sorts. Now the development of modern surgery has led in a direction away from the requirements of medical education. These special surgical procedures are really objects for post-graduate study. Having completed his training in the broad principles of physiology, pathology and medicine, the student may decide after graduation to perfect himself in some particular manipulation. Some surgical teaching and experience is essential, but the time spent in this way should be less than that spent in the study of medicine. From this point of view much surgery is the work of a narrow speciality. It is no more than a form of treatment, and its educative effect is not to be compared with that of the study of infancy and childhood. I think that the time devoted to pediatrics might be spared from the time devoted to anatomy and surgery.

THE CHAIRMAN: You are going to relieve the medical

curriculum; we know that is what you have to do before you load up. You propose to relieve the curriculum on the anatomical detail side and on the surgical assistance side. Is that all, or can you help us anywhere else? If you have any more points in your mind as to how we can relieve the curriculum, you are going to help everybody round the table. There have been a good many letters from other countries asking for advice on how to unload the curriculum, and we do not yet know what advice to give at home, let alone abroad. I am always trying to discover ways in which we can fairly reduce the burden on the student's memory and get a much better trained man than one who has merely memorised his facts. You have given us two examples; are you prepared to increase the number?

DR. CAMERON: No, I think not. Unless I add that I sometimes see a tendency to demand a very close familiarity with bacteriological technique. It is right that students should understand the principles of bacteriology, but we need not demand too great a knowledge of a technique that is constantly changing.

Before concluding I should like to state again our difficulties. We are not masters in our house. We cannot ourselves manipulate the curriculum so as to make the changes we desire. We have to follow Examining Boards and Universities. It is a great satisfaction to me that the Governors of Guy's Hospital have done what they have for pediatrics and yet at present I find that only a few students—and these I think are generally the best students, the best trained and with the keenest intellects—will throw themselves heart and soul into the study of the individual child to detect how it differs from the normal and wherein it falls short of the ideal development of which it is capable. The work is not easy. It is difficult both to learn and to teach. It is much easier for the student to be keen on the removal of adenoid vegetations than to understand why they come and how they can be prevented. The educational effect is, however, very different. Incidentally I may say that I hope that the difficulties which have hitherto stood in the way of post-graduate instruction in London are about to be surmounted and that we shall soon have arrangements which will permit of the satisfactory study of special subjects by post-graduates from this country and abroad. Lastly I think that we might at least urge that the University of London should grant an M.D. degree in the special subject of Pediatrics as is done now, I think, in Midwifery and Diseases of Women.

THE CHAIRMAN: If I may say so without presumption, the case has been very clearly put by Dr. Cameron on these three points. First, he suggests that a pediatric department is necessary in every medical school; secondly, that in this department every student shall be taught compulsorily for three months; his third point is that every student shall have a special and separate examination in pediatrics.

DR. WHEATON: I would like to say that we had a con-

ference here last summer about the question of providing beds for children in centres and since then the Board have made grants for this purpose, but we have limited the number of the beds which we have provided in every individual centre. An appeal is now pending, and we are hoping that the hospitals themselves will take this subject up, and that they will provide these beds as part of their out-patient department. That is one reason why we limited the number of beds which we have provided in a voluntary centre to eight, because we thought at that time it was a pity this work should be lost to the medical student. It is impossible to imagine medical students wandering around a great number of small centres in London, but we were told at that time that the hospitals could not take this up at all; it would mean an expenditure by Governors which they were not prepared to meet, and therefore we consented with reluctance to the voluntary centres having these beds and supporting them, but we are hoping in addition to the voluntary efforts, that all the large hospitals will have an observation ward.

DR. CAMERON: I think this is a matter of great importance, because young children will not remain in health except in buildings which are especially constructed for the purpose. The crowding of infants into houses turned into hospitals may lead to very disastrous results. I take a child into hospital with great reluctance. Often the infant dies of the complaint which he contracts in hospital, not of that for which he was admitted.

DR. RAMSEY: The child should be treated in its home and the health visitor trusted to do the work.

DR. FAIRBAIRN: I have a few points I should like to bring out, and I should begin with the examination. I should like to emphasise that we cannot improve the teaching of pediatrics unless the examination system is brought into line, because it is the first hurdle in front of the men, and they cannot look further ahead than that. You cannot expect, with the curriculum overloaded as it is, that the men will devote themselves to a subject that has no examination value whatsoever. One is constantly finding that we are up against this problem. I might explain to our visitors that we are in a specially difficult position in London because in the London Medical Schools we are not only not our own masters, but we have to cater for Oxford, Cambridge, London University, and three or four different Examining Bodies. They are quite independent of us, so that any suggestions to be effective would have to come from headquarters. By "headquarters," I mean the General Medical Council. If we wish to achieve anything for pediatrics with the new generation, we must have the examination system brought up to date. I do not think we can leave the examination entirely to the teacher, because teachers vary very much in their estimate and judgment of men. It would have to be done with the help of assessors. I think it would be a very good thing if

we could introduce something based on the system they have in Canada.

I have already spoken of the necessity for a complete maternity centre in connection with each hospital; I am quite sure it is not at all a difficult thing to arrange. I think it is essential that any hospital that is given a grant or recognised as a medical school should have a complete centre of its own. I would specially urge that the teaching of the student should begin with the pregnant woman. Imbue the student with the idea that he is really dealing with two patients, the mother and her parasitic fœtus, and that he has to anticipate the time when there will be the health of two individuals to deal with. That should be the aim and object of the obstetric side—to get a healthy baby without injury or damage to the mother. The pediatric side should carry on the training, and there should be a complete fusion of the two sides from the start to the finish. I think everybody here is perfectly agreed about that. I have spent a good deal of time on the rather academic point as to where the teaching of the obstetrician should be divided from that of the pediatrician, and I feel very strongly that there ought to be a time when both teachers are sharing the teaching together at one and the same time.

Finally, in regard to the social side of the subject. For some years our social work at St. Thomas's Hospital has been extending and our students are getting a new idea of their work by being given some insight into the social side. Before my obstetric clerks go out into the district they have an interview with the Lady Almoner and her chief visitor; they are told that there are certain things they have to look out for in the home, and they do so and report. That is very useful training.

My points would be that the examination system should be arranged to meet the new conditions of things; that every Medical School should have a complete centre; that the student should take the midwifery course and, if possible, go straight on, as Dr. Cameron has suggested, from midwifery into pediatrics, watch the life and health of the infant whose intra-uterine development and birth have hitherto been his care through its breast-feeding and weaning. If the student does that he gets a complete picture of the whole thing from the preventive medicine point of view. As Dr. Ramsey said, it is the normal infant that should be taught to the student. The pediatrician should approach the subject from the standpoint of physiology rather than of pathology.

DR. EARDLEY HOLLAND: There are one or two points I should like to say a few words about. I am not so much interested in the infant. I do not know much about the infant and I am not ashamed of my ignorance, because if I had studied the infant intensively, then I should not have studied so intensively other things that I feel I ought to know more about, such as

pregnancy, labour, gynecological disease and so on. I think the infant wants intensive study, but I am convinced that the obstetrician and gynecologist has not the time to give the infant that study. Therefore I am most strongly in favour of the infant being handed over to the pediatrician for the purpose of teaching and research. I mean, of course, in the hospitals and medical schools. It comes to this, that if the obstetrician has to look after the infant and to study it intensively, then he must give up gynecology; he cannot do both. He must either be an obstetrician and pediatrician, or he must be an obstetrician and gynecologist. But obstetrics ought not to be separated from gynecology. It is, I think, agreed that they are inseparable subjects.

Another point I wish to mention is the teaching of obstetrics. The teaching of obstetrics at the present time is exceedingly badly done, except in a few chosen places. One of those places is St. Thomas's Hospital, where it is entirely due to the efforts of Dr. Fairbairn that students are well taught. I consider that Dr. Fairbairn is one of the pioneers in London of the better teaching of obstetrics. As a matter of fact the midwife has ousted the student. Nearly all the lying-in beds for teaching are allocated to the teaching of the midwife, and the student is left out in the cold. It is absolutely essential that lying-in beds in the general hospitals should be established, and that it should be made obligatory upon the student to do lying-in work in a ward. I mention this because it is closely connected with pediatrics; for it means the study of the fœtus, the causes of fœtal death, the relation of the fœtus to the infant, injuries received by the fœtus and the diseases transmitted to the fœtus during pregnancy. I feel that as obstetricians we have very little more interest in the infant than is included in its fœtal stage. The part that should be played by the obstetrician in infant welfare is to look after the fœtus; to preserve it during pregnancy from transmitted disease, and to preserve it during labour from the injuries it may receive during its passage through the birth-canal. As soon as the establishment of pulmonary respiration has announced the fact that the metamorphosis from fœtus to infant is complete, he will hand over the infant to his pediatric colleague, asking the latter to note that it has been delivered to him in good condition.

Those really are the only two points I wish to speak on, the point of view of the obstetrician *qua* the infant, and the teaching of obstetrics.

THE CHAIRMAN: I have these five points in front of me. First, breast feeding; second, education of medical students and practitioners on pediatrics and obstetrics; third, the education of girls in the public elementary schools; fourth, the education of the public; lastly, the training of the midwife, the maternity nurse and the health visitor. I

think, if I may suggest it, what we want to do is to put our conclusions in simple, general terms. If we get at the deep roots of the subject we shall probably agree; if we get on the surface of the subject we shall find a great many details on which we can differ. We have been discussing questions to-day which have deep roots. If now we say to the Government, "We are all agreed round this table on four or five broad principles," we are much more likely to get action than if we try to narrow down our points. If we can get something specific, say, one sentence on each of these points on which we are agreed, it would be most useful.

After some discussion the Conference unanimously resolved:—

That every effort should be made to impress on the whole community the supreme importance of breast-feeding, for the sake of both mother and child; that at present over-feeding of the baby, especially in the first fortnight of life, is one of the commonest and most serious mistakes of nursing mothers, often upsetting the child and leading to the early abandonment of suckling.

That this tendency can be best counteracted by a general recognition of the benefit of greater regularity and lessened frequency of feeding than is customary.

That with very few exceptions nursing only every four hours from birth is best for mother and child, though in a few cases more frequent feeding may be desirable.

That in general there should be an interval of seven or eight hours between the last feeding at night and the first feeding in the morning.

That every medical student preparing for a registrable qualification shall receive adequate teaching in the subjects of infancy and childhood in health and disease; that attendance in a department where instruction is given in these subjects should be compulsory for a period of not less than three months; and that some special part of the final examination in medicine should be devoted to these subjects.

That, as far as practicable, this study shall follow upon, and be co-ordinated with, a satisfactory course in obstetrics and gynecology, and should be made available for post-graduate students; further, we are convinced that the present training in obstetrics leaves much to be desired, especially in regard to the lack of facilities for bedside teaching in midwifery.

That we consider great public advantage would result from a larger measure of uniformity in the advice given by Public Authorities and others in respect of maternity, infant and child welfare; the only way in which we think this can be secured is by obtaining a written statement from a body of experts.

That both practical and theoretical instruction in infant hygiene should form a part of the training of midwives and of all persons engaged by Public Authorities in infant welfare work.

That maternity nursing should only be undertaken by competent and adequately trained persons, preferably by qualified midwives.

THE CHAIRMAN: I have to thank you very much for your attendance here to-day. The responsibility of this Conference has been upon you; it is now for me to place its recommendations before the Local Government Board.

After a vote of thanks to the Chairman the proceedings concluded.

ENGLAND AND WALES: MATERNITY AND CHILD WELFARE

Services provided by Local Authorities and Voluntary Societies
For which the State may make a grant of half the Expenditure

			ANTE-NATAL PERIOD	LYING-IN PERIOD	INFANCY & EARLY CHILDHOOD
M. O. H. and Lady Assistant M. O. H. for Maternity and Child Welfare	HOME SERVICES		HOME VISITOR Midwife or Health Visitor DOCTOR for Illnesses of Pregnancy FOOD and MILK	MIDWIFE DOCTOR MATERNITY NURSE HOME HELP FOOD and MILK	HEALTH VISITOR INFECTIOUS DISEASE NURSE FOSTER MOTHER FOOD and MILK
	INSTITUTIONAL SERVICES	Non-Residential	MATERNITY or ANTE-NATAL CENTRE Maternity or Ante-Natal Clinic, including Dental Clinic, &c. FEEDING CENTRE		CHILD WELFARE CENTRE Infant Clinic, including Dental Clinic, Ophthalmic Clinic, Milk Depot, &c. DAY NURSERY NURSERY SCHOOL
		Residential	REST HOME	MATERNITY HOME MATERNITY HOSPITAL CONVALESCENT HOME	HOSPITAL Observation Ward for Ailing Babies at Child Welfare Centre CONVALESCENT HOME HOME for HOMELESS CHILDREN HOSTEL for MOTHERS & INFANTS

APPENDIX I.

MATERNITY AND CHILD WELFARE IN ENGLAND AND WALES.

1. **Schemes for Maternity and Child Welfare** in England and Wales are organised by the Metropolitan Borough Councils in London, by the Councils of most Boroughs and Urban Districts with a population over 20,000, and for the rest of the country for the most part by the County Councils. All Local Authorities have power to make such arrangements as may be sanctioned by the Local Government Board for attending to the health of expectant and nursing mothers and of children under five who are not being educated in schools recognised by the Board of Education.

2. The distinctive features of these schemes are the employment of Health Visitors and the establishment of Maternity and Child Welfare Centres. Health Visitors are women with the qualification either of a trained nurse, a midwife, or a sanitary inspector, often with more than one of these qualifications and with a diploma given by a training school after a special course in the work of a Health Visitor. The Government are now considering the question of prescribing a special curriculum and a standardised examination for Health Visitors.

3. The chief duty of a Health Visitor is to visit the infants in her district immediately after birth. Every birth is now required to be notified to the Local Authority within 36 hours, but where there is a doctor or a trained midwife in attendance the Health Visitor does not usually visit the infant until after the first ten days. Health Visitors have no power of entry into a house, and their visits can only be made with the goodwill of the mother. They usually ask on their first visit whether their services are desired, and in practice it is found that they are generally well received. They are even invited in some districts to some of the better class houses in which infants are born, which they do not usually visit except on request.

4. Their function is to assist the mother generally in the care and management of the child. They supervise it as a rule until it is five years old, when it goes to the Elementary School and comes under the care of the School Medical Officer and School Nurse. They try to get the mother to bring it to the Centre at regular intervals, see that it has proper and adequate nourishment and clothing, advise the mother how to keep it in health, and what to do if it becomes ill. They make special visits to cases of measles and other infectious disease in young children, inquire into the

circumstances of still-births and deaths of young children, and also visit expectant mothers in some cases to give them hygienic advice and to induce them to attend the Maternity Centre.

5. It has been found that a Health Visitor giving her whole time to this work can properly supervise a child population represented by about 400 births a year, and on this standard about 2,000 Health Visitors are needed in England and Wales. At the present time upwards of 1,450 whole time Health Visitors are at work. About 3,000 women altogether are engaged in Health Visiting, but many of them act also as School Nurses, Tuberculosis Nurses, District Nurses, Midwives, and Sanitary Inspectors.

6. Maternity and Child Welfare Centres have now been established in most populous areas in England and Wales. The tendency is for each Centre to coincide with the district of a Health Visitor. The Health Visitor tries to get the expectant and nursing mothers and children under five in her district to come regularly to the Centre, which is usually open one afternoon a week. The Centre is attended by a doctor, who sees each mother and child as far as possible once a fortnight or once a month, and advises the mother how to keep herself and her baby in health and gives simple treatment when they are ailing. The Health Visitor makes notes of the advice given and tries to get it carried out in the home.

7. Apart from the medical consultation, the Centre also serves as a medium of instruction to the women attending it in matters relating to mothercraft. Lectures and Classes are held, and cooking and sewing are taught, with special reference to the needs of young children. Milk and other foods are generally supplied at Centres, at cost price to women who can afford to pay, and at a reduced price or free of cost where they cannot afford to pay cost price. The children are weighed at each attendance, and a record of their weight and other particulars are kept on cards. At many Centres children attend until they are five years old, and their cards are then handed on to the School Medical Service.

8. The number of Centres on the 1st April, 1919, was 1,412, Most of these receive expectant mothers as well as children. Several of them give treatment on an extended scale to women who cannot afford to call in a private doctor. The tendency is, however, to separate consultation and treatment centres, and to provide one treatment centre in a town to serve a number of consultation centres. Such a treatment centre is sometimes established at a hospital, and is often combined with a school clinic. Many consultation centres, however, provide treatment as a routine matter for certain conditions, and especially for dental defects of expectant and nursing mothers and children up to five.

9. Maternity and Child Welfare work as now understood in

England and Wales includes, in addition to the two services described, a development of existing institutions for the benefit of mothers and young children which had previously been provided as a general rule by voluntary effort. Maternity Hospitals and hospitals for infants and young children, which used to be financed wholly by voluntary subscriptions, are now being established in many towns by Local Authorities. Moreover, their scope is being extended in the case of maternity to normal confinements, and in the case of infants to ailing children who are not usually admitted to the older hospitals, which as a rule receive only acute cases. Several centres provide an observation ward for children who are not thriving, and some of these take in the mother as well in order to enable her by treatment to feed her infant herself.

10. Other institutions for the welfare of mothers and children which are now being provided or subsidised out of public funds are crèches, day and night nurseries, convalescent homes for women after confinement and for children recovering from illness, and homes for children whose parents cannot provide a proper home for them, especially for illegitimate children. Many such homes take the mother as well as the infant and endeavour to keep them together for six months or a year after birth; in some of these the women go out to work after the first few months.

11. The maintenance of Day Nurseries is encouraged and assisted by the Government in order that provision may be made during the day for the care of infants and young children for whom adequate care cannot be provided in their own homes by reason of the necessary absence of the mother at work or other similar cause. The primary object of such nurseries is to promote the physical welfare of the children placed under their care. Their usefulness was clearly demonstrated during the war when special provision was made for the establishment of emergency nurseries for the children of women munition workers who were thus enabled to offer their services to the country at a time of national crisis. At the present time some 200 day nurseries are aided by the Government.

12. In most districts the Local Authority now arrange for nursing to be available for expectant and nursing mothers and young children, sometimes by the appointment of special nurses and sometimes by contracting with a Nursing Association for the services of a district nurse. The conditions for which nurses are usually provided are measles and other infections of young children, ophthalmia neonatorum, maternity nursing, and the nursing of puerperal fever. In a few cases the nursing is done by a Health Visitor who is a trained nurse.

13. The quality of midwifery practice in England and Wales was much improved by the Midwives Act, 1902, which is gradu-

ally substituting a service of trained experts for the untrained handy-woman of former times. In 1918, 61 per cent. of the midwives in practice were trained and 39 per cent. were untrained. In a large number of cases midwives are subsidised by Maternity Charities and Nursing Associations, and in the last few years Local Authorities have not only assisted these voluntary agencies financially to maintain and improve this service, but have also in between 30 and 40 cases provided municipal midwives, paid by salary out of the rates. Of the 11,450 practising midwives in 1918, about 1,500 were employed by Nursing Associations in rural districts, and about 350 by such Associations or by Maternity Charities and other Institutions in urban districts. Midwives are being employed more and more as ante-natal visitors to give hygienic advice to the women who engage them, and to help at Maternity Centres. The quality of maternity nursing is also being improved by the employment of trained midwives to nurse women who have engaged a doctor for their confinement.

14. Though Local Authorities are now organising comprehensive schemes for Maternity and Child Welfare, comprising many of the services above described in nearly every district in England and Wales, a great many of these services are still managed and largely financed by voluntary societies. The work of these societies is co-ordinated with the work of the Local Authority, and is generally supervised by the Medical Officer of Health of the Local Authority.

15. The accompanying chart indicates the Maternity and Child Welfare services in respect of which the State now make a grant of half the net expenditure, whether incurred by Local Authorities or by voluntary societies. The amount of this grant during the last financial year was about £230,000; during the present year it is estimated at £400,000.

16. Under the **National Health Insurance Acts** every woman who is herself insured as an employed contributor or who is the wife of an insured man is entitled to a payment of 30s. on her confinement; in the case of an insured married woman the amount is £3. An insured woman is entitled also to (*a*) sickness benefit (usually at the rate of 7s. 6d. a week) during any period of incapacity for work arising out of her pregnancy or confinement, other than the four weeks immediately following the date of confinement, and (*b*) to medical attendance both before and after confinement, which, however, does not include attendance in respect of the confinement itself.

17. **The School Medical Service.**—In 1907 the Education (Administrative Provisions) Act was passed and *inter alia* imposed on the Local Education Authorities—

> "the duty to provide for the medical inspection of children imme-
> "diately before, or at the time of, or as soon as possible after, their
> "admission to a public elementary school, and on such other occasions

"as the Board of Education direct, and the power to make such "arrangements as may be sanctioned by the Board of Education for "attending to the health and physical condition of the children "educated in public elementary schools."

The result of this enactment has been that the School Medical Service is now a national system (it may be said as complete of its kind and more universal than elsewhere in the world) at work in all the 318 educational areas of England and Wales, in all the 21,000 Public Elementary Schools, and in many of the Secondary, Preparatory, and Public Schools. In 1915—that is, before the temporary depletion on account of the war—there were 855 School Medical Officers and Assistant School Medical Officers engaged in the routine work of inspection and treatment, and 445 Medical Officers employed on work of a specialist character (ophthalmic, aural, dental, etc.), 1,300 medical men in all; there were 1,500 school nurses, employed in 291 out of the 318 educational areas. In 1917 the number of Local Education Authorities which had established a school dental service was 151 (comprising a school population of 3,458,700), employing 200 school dentists, at work in 300 school dental clinics. The number of Local Education Authorities which have exercised their power of providing medical or surgical treatment is 279, and 512 school clinics have been established. In addition to the establishment of School Clinics, 95 Local Education Authorities have made arrangements with hospitals in their areas for the treatment of school children. It is estimated that on the average about 60 per cent. of the children found to be defective on medical inspection are now receiving treatment. Under Section 2 (1) (b) of the Education Act, 1918, however, it is in future made the *duty* of Local Education Authorities to provide medical treatment for children in Public Elementary Schools. Under Section 19 of the Act, a Local Education Authority is empowered to make arrangements for the provision of nursery schools for children over two years of age and under five or six years of age (according to the minimum school age in force in the area). These schools are intended to provide for the care and training of such children whose attendance is necessary or desirable for their healthy physical and mental development.

18. **The English Medical Schools** include in their curriculum a greater or less degree of instruction in Pediatrics. In some schools the course consists of clinical work in the outpatient department; in some, ward work is arranged; and in others, special lectures are given on the diseases of children. In several of the Medical Schools arrangements have been made for including in the student's course attendance at Maternity and Infant Welfare Centres or clinical work in Children's Hospitals.

REGULATIONS UNDER WHICH GRANTS NOT EXCEEDING ONE-HALF OF APPROVED NET EXPENDITURE WILL BE PAYABLE BY THE LOCAL GOVERNMENT BOARD TO LOCAL AUTHORITIES AND TO VOLUNTARY AGENCIES IN RESPECT OF ARRANGEMENTS FOR ATTENDING TO THE HEALTH OF EXPECTANT MOTHERS AND OF CHILDREN UNDER FIVE YEARS OF AGE.

1. General.

(i.) The salaries and expenses of *Health Visitors and Nurses* engaged in Maternity and Child Welfare work.

(ii.) The *expenses of a Centre—i.e.*, an Institution providing (a) medical supervision and advice;

(b) medical treatment.

(iii.) *Arrangements for Instruction* in the general hygiene of maternity and childhood.

(iv.) The *cost of food* provided, where such provision is certified by the Medical Officer of the Centre or by the Medical Officer of Health to be necessary, and where the case is necessitous.

(v.) *Experimental health work* carried out by Local Authorities or voluntary agencies with the approval of the Board.

(vi.) Contributions by the Local Authority to *voluntary institutions* and agencies approved under the scheme.

2. Expectant Mothers.

The provision for necessitous women of a *doctor* for illness connected with pregnancy.

3. Period of Confinement.

(i.) The salaries and expenses of *Inspectors of Midwives.*

(ii.) The *provision of a midwife* for necessitous women in confinement and for areas which are insufficiently supplied with this service.

(iii.) The provision for necessitous women for *aid during the period of confinement* for mother and child.

(iv.) *Hospital treatment* for—

(a) complicated cases of confinement or complications arising after parturition;

(b) cases in which a woman to be confined suffers from illness or deformity;

(c) cases of women who cannot with safety be confined in their homes;

(d) such other provision for securing proper conditions for the confinement of necessitous women as may be approved by the Medical Officer of Health.

4. Nursing Mothers.

The provision of accommodation in *convalescent homes.*

5 Children Under 5.

(i.) *Hospital treatment* in cases found to need in-patient treatment.

(ii.) Expenses of *crèches and day nurseries,* and of other arrangements for attending to the health of children whose mothers go out to work.

(iii.) The provision of accommodation in *convalescent homes.*

(iv.) The *provision of homes* and other arrangements for attending to the health of children whose parents cannot provide a satisfactory home for them.

APPENDIX II.

NOTES ON INFANTILE MORTALITY IN ITALY DURING THE WAR, BY STATISTICIAN OF TUBERCULOSIS COMMISSION OF THE AMERICAN RED CROSS IN ITALY.

It has been repeatedly stated and emphasized by lecturers and war posters, until we became tired of the argument, that the War would be won not merely on the battlefields but also by the endurance and the industrial and productive power of the people at home. What has not been drawn equally to our attention is that also the civil population suffered casualties from the War, and that these losses have been not less severe than those suffered by the armies at the front. In some instances, the loss of life in the civil population caused directly or indirectly by the War has exceeded the deaths on the battlefield, and these losses, probably more than anything else, have determined the ability of the nations to continue in the struggle. After the initial sanguinary battles of 1914, the improved defence methods, the great progress of military surgery, and the better organisation of hospitals and supplies have kept the losses of the combatants at a lower figure than could otherwise be expected. The reverse condition has, however, been developing among the civil population of the belligerent countries. During the first couple of years of the War, the condition of the people remaining at home was not alarming except in the invaded districts. During the years 1917 and 1918 the strain became much increased, and we find in many countries evident signs of the physical strength of the civil population giving way. The birth rates dwindled to a hitherto unknown minimum, and the mortality from several causes increased dangerously. Finally, the weakened state of the population made possible the terrible influenza pandemic which carried away millions of people at the best age of life.

It is particularly true for Italy that the loss of population at home has been greater than the direct war casualties. During the last ten years before the war, there was considerable progress in economic life as well as in culture and arts; also, the sanitary conditions of the country were materially improved. Malaria was being beaten down rapidly; pellagra was being eradicated; tuberculosis brought under control; and the mortality from these and other diseases was, at the beginning of the war, in no sense unusual. The general

mortality from all causes was, in 1914, the lowest ever experienced in Italy, that is, 17.9 per 1,000 population. This figure is somewhat higher than the corresponding rates for England, but it must be remembered that the proportion of children under two years is very much higher in Italy, and that the high mortality which is always found during the first two years of life will have a great influence upon the general mortality rate. Standardization of the Italian mortality on the basis of the age distribution of the population of England and Wales would bring the rates for these two countries nearer together. In 1915 we already see some influence of the War upon the general mortality, the rate for that year being 20.4, that is, an increase of 14 per cent. over the previous year. During 1916, however, we find no further increase of the general death rate, the average for the Kingdom during that year being 20.0 per 1,000 population. These figures refer only to the civil population and take no account of the soldiers who died in the service.

The influence of the war upon the birth rate was more keenly felt. The birth rate had in the years before the war been decreasing, but very slowly, and by no means as much as in the northern countries. The birth frequency was still high when compared with that of England, Holland, France, Scandinavia, and Germany. During 1914 the birth rate was 31·1 per 1,000 population, and during 1915, 30·5. It will be remembered that Italy did not enter the war until May, 1915, and only in the following year do we see the results of the mobilization in a marked decrease of the birth rate to 24·4 per 1,000 population, which means a decrease of 20 per cent. from the previous year. This decrease was most significant in the northern provinces, because the birth rates were there already very low. In 1916, a birth rate as low as 15·8 was recorded in the région of Piemonte, 18·3 in Liguria, and 19·6 in Toscana. The natural increase of the population of Italy, that is, the excess of births over deaths, amounted to 13·1 per 1,000 inhabitants in 1914, which figure has been about the same for the previous decade. In 1915 the natural increase fell to 10·1 per 1,000, and in 1916 became as low as 4·4 per 1,000 population. During this year we find an actual decrease in some of the northern provinces, as Torino, Novara, Porto Maurizio, and in other provinces, as Como, Pavia, Firenze, Pisa, and Livorno, the population was practically stationary.

It is to be regretted that the mortality data and birth data have not as yet been compiled for 1917 for the country as a whole. We have, however, been able to obtain mortality statistics for some of the cities during 1917 and 1918, and can from these scattered data obtain some impression of the general trend of the development. The general mortality rate for the country was evidently higher in 1917 than in the

previous year, but certainly did not exceed 25 per 1,000 population. We have compiled the birth statistics for the years 1914 to 1917 for 16 cities with a total population of 3,000,000. The birth rate in these cities combined was 22·8 in 1914, 21·4 in 1915, 17·7 in 1916, and 14·7 in 1917. For 1918, we have as yet received only a few data, but the majority of these indicate a further decrease. In the city of Genova, for instance, the birth rate was 14·4 for 1918, as against 16·1 in 1917, and in the city of Padova 15·8 in 1918 as against 23·1 in 1917. It is probable that the birth rate for the country as a whole has been not much over 18 per 1,000 during 1917, and probably about 16 per 1,000 population during 1918. This would mean that during the three years, 1916, 1917 and 1918, about 1,200,000 fewer children were born than would have seen life if the birth rate of the pre-war years had remained. This represents clearly a very serious loss of potential lives.

We have as yet very few definite and final data as to the actual number of deaths caused by the influenza epidemic. Several of the best statisticians in Italy state that the loss of life from this cause has been no less than 500,000 during 1918, which would mean a mortality from this disease alone of about 1·5 per cent of the population. We have already statistical data to show that in the cities of Firenze, Genova, Milano, Padova, Perugia, and several smaller cities, the mortality from the influenza epidemic was about 1 per cent. of the population. In the cities of the south and in the villages the mortality from the epidemic has generally been considerably higher than in the cities of the north. With the help of these data we can conservatively estimate that nearly 1,000,000 people have died in Italy during the war years in excess of the number which would have died if the pre-war mortality rate had prevailed The total number of actual and potential lives lost by the civil population is, then probably four or five times the number actually killed on the battlefield or died from wounds received in action or from diseases contracted in the military service. This truly alarming condition makes it all the more necessary to attend to the welfare of the new-born children with the utmost care, and the development of the infantile mortality during these years impresses still more forcibly the necessity of immediate and thorough action.

The infantile mortality, that is, the mortality during the first year of life, was not excessive in Italy before the war. During the years 1910 to 1914, 138 children under one year died for each 1,000 living births, which is a figure considerably lower than the corresponding rates for France, Germany, Austria and Spain, but, however, slightly in excess of the rates for England, Holland, Scandinavia, and the northern states of America. From the beginning of the war we meet

with an increase of the infantile mortality. During 1914 it was 129·9 per 1,000 births, and in 1915 146·5 per 1,000 births. The data for 1916 or later years have not as yet been compiled for the country as a whole, but we have, through the courtesy of several Italian statisticians and municipal health departments, been able to obtain some data for the latest years. The city of Rome shows no increase of the infant mortality up to and including 1917, and also other facts indicate that the capital of the country had suffered less from the war than most other cities up to the time when the influenza epidemic commenced. Much less favourable conditions are met with in the large industrial cities. The data for the cities of Torino, Milano, Bologna, Ravenna, Firenze and Palermo combined, gave an infantile mortality of 107·7 per 1,000 living births in 1914, which increased to 130·7 in 1915, 143·6 in 1916, and 171·2 in 1917. This indicates an actual increase of 60 per cent. during the four years in view. The city of Genova shows somewhat higher infantile mortality than prevailed before the war, but the increase has not been as considerable as in the above-mentioned cities. In Perugia the infantile mortality was 115 per 1,000 births in 1914; during 1915 it was 142, in 1916, 155, in 1917, 217, and in 1918 as high as 269 per 1,000 births. In some of the smaller towns—from 20,000 to 30,000 population —on the Adriatic Coast, we meet with a still more remarkable increase of the infantile mortality rate. In the city of Fano, there were, in 1915, 172 deaths under one year per 1,000 living births, in 1916, 258, in 1917, 424, and in 1918, 575. In the city of Pesaro, the infantile mortality increased from 161 in 1914 to 371 in 1917 and 637 in 1918. The infantile mortality in these last two cities is, of course, exceptional, but it proves that the situation in many parts of the country is decidedly critical. The general impression is that the rural districts and the small towns have suffered worse than the large cities, and I should not be surprised to find, when the data are compiled for the country as a whole, that the infantile mortality had doubled by the end of the war.

When the question is discussed as to what Italy has lost in the war, it should not be forgotten that the tuberculosis mortality has nearly doubled, the infantile mortality has doubled, the incidence of malaria has trebled, the influenza epidemic has caused the death of more than 1 per cent. of the population, and the birth rate has been reduced to about half, and all this through no fault of hers or through the relaxation of sanitary and social measures. The privations and suffering of the Italian civil population and the disease and death among them should be considered equally with the soldiers who died in the allied cause.

(Signed) K. STOUMAN,
Statistician.

January 27th, 1919.

APPENDIX III.

OUTLINE PREPARED BY CAPTAIN RICHARD A. BOLT OF A PLAN BY PROF. V. TEDESCHI, OF PADUA, FOR A LAW "FOR THE CO-ORDINATION OF THE STUDY OF PEDIATRICS WITH THE NATIONAL CHILD WELFARE WORK."

I. A Provincial Association for child welfare shall be established in every provincial deputation of the Kingdom.

This scheme provides for the co-ordination of all the child welfare work through the establishment of provincial boards for child welfare, made up of the following elements :—

First.—President of the Provincial Delegation.

Second.—The Provincial Physician.

Third.—Secretary of the Provincial Delegation.

Fourth.—A "Medico Condotto" (county physician) of the Province, delegate from the Directive Council of the National Association of Executive Physicians.

Fifth.—Delegate of Directive Council of the order of Provincial Physicians. When these organisations are formed in a place where there is a medical faculty, they will be represented by the following: (a) Professor of Pediatrics; (b) Professor of Hygiene, and (c) Professor of Obstetrics.

Sixth.—Physician for the Foundling Asylum where there is such.

Seventh.—Two graduate nurses of the Italian Red Cross who reside in the province and who, upon invitation of the President of the National Delegation, are designated by the Central Committee of the Red Cross.

This organisation is to carry on in the Province, with all means possible, a suitable propaganda in behalf of infancy and childhood. It will give advice in all undertakings which it deems useful for the protection of infancy, and also in case of need furnish the material means for those undertakings which are not merely aimed at local benefits, but which would benefit the entire province.

II. The co-ordination of the teaching of Pediatrics with child welfare work.

This includes:

First.—The establishment of practical Schools of Pedology which are to be gradually organised at the Royal Universities by the Minister of Public Instruction. Schools of Pedology which were instituted before the proposed law shall be promulgated are to be modified to correspond with the new regulations.

Second.—As a necessary condition for the establishment of these schools, there should be formed in the same place a charitable voluntary organisation composed of citizens which shall correspond to societies for the protection of children, and which shall have as their chief aim the supporting by moral and material means the pediatric clinic in its educational work of a social-medical character.

Third.—Only graduates of medicine and surgery may enrol in these Schools of Practical Pedology.

Fourth.—Similar courses of study may be held in all the pediatric clinics of the Kingdom.

Fifth.—Pediatric clinics shall have the right to use the new-born of the maternity homes for their instruction when the mothers do not object and they have the consent of the director of the institution.

Sixth.—The Minister of Public Instruction may, after discussion with the Chief Council, decide that the university instruction in pediatrics shall cover two years and be given in the last two years of the course of medicine.

Seventh.—In the Medico-Surgical Faculties, or in the Foundling Asylums, the Professor of Pediatrics will take part in the Directive Council and have right of discussion on all questions of a technical sanitary character.

Eighth.—The Minister of Public Instruction has authority to found or subsidize one or more pediatric journals for the propaganda of pediatrics and its medico-social phases in harmony with the present law.

Ninth.—Each provincial organization for infancy shall establish a travelling school for child welfare for the purpose of carrying on propaganda and education in the rural districts.

Tenth.—In order to unify the scientific-social management of child welfare work, the Schools of Practical Pedology should be alike in details of equipment and operation, and should have in common any modifications which the Minister may make within the limits of the rules.

Eleventh.—The fundamental studies taken up in the School of Pedology are: Pediatrics, Anthropology of Infancy and Infant Psychology, Infant Hygiene, Essentials of Orthopedics, and Legislation regarding infancy and childhood.

III. Special courses in child welfare for midwives.

Courses for midwives are to be provided which consist of practical teaching and demonstration in forty lessons. This course is to be organised by the Director of the School of Pedology where one exists; otherwise by the Director of the Pediatric Clinic.

The course will be held in the pediatric clinic which will put at its disposal all the necessary means for teaching.

IV. Subsidies for Pediatric Journals.

First.—The Minister of Public Instruction, after hearing of the Chief Council, will give contracts to the journals appointed to support child welfare work in accordance with the law.

Second.—When the Minister uses other journals which are subsidized, he will have in the office of each journal which is subsidized, a representative, or one of the editors, who can be trusted to look after its interests, chosen from among the members of the National Association of Medical Officers and appointed by the Directive Council.

V. Medals for Distinguished Services.

Medals are proposed to be given to those who distinguish themselves in national child welfare work. They are to be conferred by the Minister of the Interior upon the proposal of the president of the organisation, or by the Minister of Public Instruction upon the proposal of the Society for the Protection of Children, after discussion with the Prefect of the Province.

Resolutions passed at the Ninth Congress of the Italian Pediatric Society, Rome, June 3-4, 1918.

The Italian Pediatric Society in its daily congress expressed the following in regard to the above report :—

That it is convinced that the most useful provision for social restoration rendered necessary by the War must consist in reducing the infant mortality, too high even before the War, and in assuring to infancy better and more suitable conditions for development.

That it is certain that such an end cannot be attained unless a suitable National Institution for the Protection of Infancy (Opera Nazionale di protezione dell' Infanzia) is functioning in the country.

That it is persuaded that such an Institution will be truly efficacious only if the State takes upon itself the protection of infancy.

That it expresses the opinion that the Government will enact a law for the protection of infancy, which, aside from establishing the fundamental principle that the care of children belongs to the State, determines upon the constitution for a National Institution for Infant Protection (Opera Nazionale di protezione dell' Infanzia) which assures to every child the necessary watchful assistance; submits for revision the Acts regarding abandoned infants and the functioning of the foundling asylum and the other institutions for pediatric assistance; permits the application of the new researches in science and hygiene to the protection of children; arranges so that a popular instruction of puericulture and pediatric hygiene may be made possible; regulates wet-nursing; modifies and re-arranges with a modern construction the other laws of the State which have already been drafted for the protection of infancy.

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